RECEIVED
CENTRAL FAX CENTER
JUN 2 0 2007

REMARKS

Solely in order to expedite prosecution, claim 1 has been amended, without prejudice/disclaimer to the subject matter embodied thereby, to incorporate the subject matter of claim 4. Claim 1 is the only independent claim pending.

Claim 1, as amended to include the subject matter of claim 4, stands under 35 U.S.C. § 103(a) as being unpatentable over JP '502 in view of JP '514. This rejection is respectfully traversed for the following reasons.

Claim 1 recites in pertinent part, "wherein a material of the varistor layer contains zinc oxide as a main component and the ceramic insulating substrate is an alumina substrate containing copper oxide having a content of 0.1% or less by weight ratio." The Examiner admits that JP '502 does not disclose the use of copper in the alleged ceramic insulating substrate. The Examiner therefore relies on JP '514 in an attempt to obviate this deficiency of JP '502. However, it is respectfully submitted that JP '514 is completely unrelated to the present invention. JP '514 merely discloses a conventional alumina substrate as used ***in a multi-layer circuit board***, where the circuit board has an alumina content of 99.9% or greater. As admitted by the Examiner, JP '514 also does not disclose the use of copper oxide. To further obviate this deficiency of JP '514, the Examiner merely alleges that the "use of copper would have been obvious as a means to increase thermal conductivity."

A. As a preliminary matter, it is respectfully submitted that the Examiner has improperly modified a modifying reference. Although there is no limit to the number of references that can be used to modify a *primary* reference, it is respectfully submitted that modifying a feature taught in a *secondary* reference (already used to modify the primary reference) is too attenuated from the claimed invention to be considered obvious. In the instant case, the Examiner relies on JP '502 as the primary reference, and then relies on JP '514 as the secondary reference for

teaching a substrate with 99.9% or more of alumina and 0.1% or less of other particles. In this regard, it is noted that JP '514 does not suggest using copper oxide as the "other particles." Accordingly, the Examiner then attempts to modify the 99.9% alumina substrate of ***JP '514*** (i.e., secondary reference) by adding copper oxide up to 0.1% without any support from the prior art. Accordingly, it is respectfully submitted that the Examiner has improperly modified a modifying reference so as to evidence a lack of obviousness for the claimed ***combination***.

B. Further, it is respectfully submitted that the Examiner's attempted inclusion of copper oxide at the particular range of 0.1% is an exercise of improper hindsight reasoning where the Examiner merely concludes that such a modification would have been obvious without providing any objective evidence from the cited prior art. For example, even assuming *arguendo* that JP '514 suggested copper oxide as the "other particles," the teachings of JP '514 are related to an alumina substrate as used in a multi-layer circuit board. JP '514 fails to disclose or suggest the desired properties of a substrate as used specifically in a varistor combination. Indeed, JP '514 is completely silent as to varistor characteristics of the substrate. Rather, JP '514 suggests high purity alumina powder as the raw material for the substrate to obtain high heat conduction and mechanical strength to support the multi-layer circuit board. In contrast, as will be discussed below, the copper oxide content is particular to a varistor/substrate combination and irrelevant to a substrate used in a multi-layer circuit board as in JP '514. In this regard, it is noted that the Examiner asserted that the motivation for adding the copper oxide is "to increase thermal conductivity" (*see* page 3, lines 15-16 of outstanding Office Action). However, as expressly disclosed by JP '514, the high thermal conductivity is already obtained by the use of a substrate having an alumina content of 99.9% or greater. Accordingly, there is no disclosed need or desire

to mix in copper oxide to increase the already high thermal conductivity substrate of JP '514. In fact, there is no evidence that adding copper oxide would increase the conductivity of the substrate having an alumina content of 99.9% or greater let alone a suggestion for doing so.

C. Even further, it is respectfully submitted that one of the inventive features of the present invention is directed to the ***combination*** of a ceramic insulating substrate and a varistor unit, with the ceramic insulating substrate being an alumina substrate containing copper oxide having a content of 0.1% or less by weight ratio. In this regard, one of the objectives of the present invention is directed to making it possible to reduce the peak voltage due to the electrostatic discharge pulse. As noted previously, JP '514 is completely unrelated to a reduction of the peak voltage due to an electrostatic discharge pulse, as JP '514 is related to multi-layer circuit boards and is irrelevant to the issues arising from varistor/substrate combinational structures. Accordingly, there is no motivation outside of Applicants' specification for including copper oxide at the claimed range into a substrate in combination with a varistor.

In sum, JP '514 discloses a high alumina content substrate for use in multi-layered boards and is not relevant to the substrate/varistor combination. Further, neither JP '502 nor JP '514 suggest the inclusion of copper oxide; let alone suggest copper oxide specifically used in a substrate/varistor combination, much less the particularly recited range of copper oxide.

Only Applicants have recognized and considered the effects that can be obtained from the claimed combination. Indeed, one of the purposes of the present invention is to provide an electrostatic discharge protection component that has both an extremely low electrostatic capacitance and an excellent electrostatic discharge protection performance/varistor characteristic. More specifically, the present invention can make it possible to provide a varistor device with both a very small capacitance that fits to a super high frequency apparatus and an

excellent absorption characteristic for the electrostatic discharge pulse. JP '502 is silent as to such drawbacks of a conventional substrate/varistor combination and therefore provides no motivation for modifying its substrate, much less in the manner recited in claim 1; and JP '514 is all together silent as to varistor/substrate combinations so that the substrate teachings of JP '514 are irrelevant to the substrate in JP '502.

D. Even further yet, it is respectfully submitted that the claimed combination provides new/unexpected results to evidence the criticality thereof. For example, as described on page 16, line 8 – page 17, line 1 of Applicants' specification, when a varistor is formed on a substrate that contains more than 0.1 weight % of copper oxide, Applicants found that the peak voltage value jumps up to 400 V from a normal value of 220 to 240 V. Only Applicants have recognized that using an alumina substrate containing copper oxide more than 0.1 weight % specifically in a varistor combination would lead to the electrostatic discharge component having a poor absorption characteristic for the electrostatic discharge. Both JP '502 and JP '514 are silent as to copper oxide being used in a varistor/substrate combination, let alone suggest the importance of controlling the amount of copper oxide to the claimed range as done by Applicants.

In this regard, it should be noted that the "routine experimentation" basis for an obviousness rejection can only be relied upon by the Examiner if the ***prior art*** first recognizes the modified parameter as a result-effective variable. In the instant case, only Applicants have recognized and considered the importance of the copper oxide amount as a result-effective variable (indeed, JP '502 and JP '514 are completely silent as to *any* amount of copper oxide), so that the Examiner can not rely on the obviousness-theory of "routine experimentation" as a basis for asserting obviousness thereof. The Examiner is directed to MPEP § 2144.05(II)(B) under the

heading "Only Result-Effective Variables Can Be Optimized", which sets forth the applicable standard for determining result-effective variables:

> A particular parameter must first ***be recognized*** as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. (citing *In re Antonie*, 195 USPQ 6 (CCPA 1977)).

In the instant case, the cited prior art is completely silent as to any amount of copper oxide in a substrate, let alone one used in combination with a varistor, as achieving a recognized result (indeed, the Examiner does not reference any portion of the cited prior art for this purpose); so that there is no basis for alleging obviousness thereof based on routine experimentation.

The Examiner is directed to MPEP § 2143.03 under the section entitled "All Claim Limitations Must Be Taught or Suggested", which sets forth the applicable standard for establishing obviousness under § 103:

> To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (citing *In re Royka*, 180 USPQ 580 (CCPA 1974)).

In the instant case, the pending rejections do not "establish *prima facie* obviousness of [the] claimed invention" as recited in claim 1 because the proposed combinations fail the "all the claim limitations" standard required under § 103.

Under Federal Circuit guidelines, a dependent claim is nonobvious if the independent claim upon which it depends is allowable because all the limitations of the independent claim are contained in the dependent claims, *Hartness International Inc. v. Simplimatic Engineering Co.*, 819 F.2d at 1100, 1108 (Fed. Cir. 1987). Accordingly, as claim 1 is patentable for the reasons set forth above, it is respectfully submitted that all claims dependent thereon are also patentable. In addition, it is respectfully submitted that the dependent claims are patentable based on their own merits by adding novel and non-obvious features to the combination.

Based on the foregoing, it is respectfully submitted that all pending claims are patentable over the cited prior art. Accordingly, it is respectfully requested that the rejections under 35 U.S.C. § 103 be withdrawn.

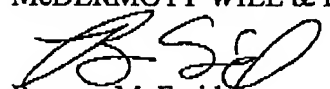
CONCLUSION

Having fully responded to all matters raised in the Office Action, Applicants submit that all claims are in condition for allowance, an indication for which is respectfully solicited. If there are any outstanding issues that might be resolved by an interview or an Examiner's amendment, the Examiner is requested to call Applicants' attorney at the telephone number shown below.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT WILL & EMERY LLP



Ramyar M. Farid
Registration No. 46,692

600 13th Street, N.W.
Washington, DC 20005-3096
Phone: 202.756.8000 RMF:MaM
Facsimile: 202.756.8087
Date: June 20, 2007

Please recognize our Customer No. 53080 as our correspondence address.